Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's	)	GEN Docket No. 90-314
Rules to Establish New Personal	)	RM-7140, RM-7175, RM-7618
Communications Services	)	

To: The Commission

COMMENTS ON UTAM PLAN FOR FINANCING AND MANAGING 2 GHZ MICROWAVE RELOCATION

Apple Computer, Inc. ("Apple") hereby comments on the UTAM Plan for Financing and Managing 2 GHz Microwave Relocation filed August 1, 1994 (the "UTAM Plan"). In its Second Report and Order in the above-referenced proceeding (the "Second R&O"), the Commission conditionally designated UTAM, Inc. ("UTAM") as the entity responsible for financing and managing the relocation of fixed microwave users currently operating in the unlicensed PCS band. The designation was conditioned upon UTAM's submission and the Commission's acceptance of: (i) a funding plan that is equitable to all prospective manufacturers of unlicensed devices, and (ii) a band clearing plan "that will permit the implementation of nomadic devices and, in particular, nomadic data PCS devices, as promptly as possible."[1]

UTAM's plan was required, "[a]t a minimum," to include estimated time tables and priorities for clearing significant portions of both the isochronous and

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[1] Second R&O at ¶ 88, Appendix A at 9 (Section 15.307(a)).

The requirement that UTAM provide for the prompt deployment of nomadic devices was the result of the Commission's recognition of the unique "last link" problem facing such devices.

As discussed in greater detail in previous Apple filings, the most important unlicensed voice PCS products will operate in conjunction with and be controlled by a fixed base station and, therefore, can be frequency coordinated and deployed without first clearing all existing fixed microwave users from the unlicensed isochronous band. In contrast, the most important unlicensed asynchronous applications will be "nomadic," *i.e.*, they will not require any fixed base station to operate. (Nomadic Data-PCS devices may, at times, communicate with a file server or other "fixed" device. That device will not, however, control the device's operation and, therefore, will not permit the deployment of Data-PCS devices on a prior coordination basis.) As a result, the first Data-PCS device cannot be deployed until the last microwave link (both co-channel and adjacent channel) has been moved from harm's way.

asynchronous sub-bands of the unlicensed band.[2] In addition, UTAM was directed to "address specifically the issue of nomadic data PCS devices and how the plan ensures that such devices can be implemented as expeditiously as possible."[3] As discussed below, the UTAM Plan fails to meet the requirements specified in the Second R&O. The Commission should, therefore, reject the Plan.

I. UTAM'S PLAN FAILS TO PROVIDE FOR THE PROMPT DEPLOYMENT OF NOMADIC DATA-PCS DEVICES.

UTAM merely pays lip service to the Commission's direction that it provide for the deployment of nomadic devices as promptly as possible.[4] The two pages it devotes to this issue[5] make clear that UTAM will not satisfy its obligation to expedite the deployment of nomadic asynchronous devices. Rather than discussing how it will expedite the band clearing process to permit the prompt deployment of nomadic devices, UTAM states that:

- The Commission's extended negotiation period for public safety licensees will delay the deployment of nomadic devices.

- UTAM is "investigating options" to allow for the deployment of nomadic devices prior to full band clearing.

- UTAM plans to use a "wedge" approach for band clearing that will "potentially expedit[e]" the availability of frequencies for nomadic data devices.

- UTAM is "actively soliciting" contributions from potential manufacturers of unlicensed asynchronous devices and "hopes" that this will provide an important mechanism for accelerating the band clearing process and hastening the deployment of nomadic data PCS devices.

- The time frame for clearing the asynchronous sub-band is "principally dependent" upon the actions of individual manufacturers in creating and marketing coordinatable asynchronous PCS products.

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2 Second R&O at n.78.

3 Id. (emphasis supplied).

4 UTAM's unwillingness or inability to address the need for nomadic devices is perhaps best reflected by the contents of its demand study, which does not even consider the potential demand for nomadic devices. See UTAM Plan at 40 (applications described relate solely to LANs, PBXs, and other "fixed" in-building applications).

5 Id. at 54-56.

UTAM's proposal for the deployment of nomadic devices is thus hazy at best and hopeless at worst. It indicates that the unlicensed band will be cleared no earlier than late 2001, and that even this is dependent upon the actions of computer manufacturers, rather than UTAM.[6]

UTAM's Plan fails to consider alternative approaches, such as in-band re-tuning, that could expedite partial or full band clearing, and adopts a "segment self-financing" approach that directly conflicts with its obligation to speed the band clearing process for the unlicensed asynchronous band. The sole approaches it does tentatively adopt — so-called "wedge" clearing and additional manufacturer contributions — are unworkable for the reasons discussed below.

II. UTAM'S DECISION TO ADOPT A "SEGMENT SELF-FINANCING" APPROACH IS INCONSISTENT WITH ITS OBLIGATION TO SPEED THE DEPLOYMENT OF NOMADIC DATA DEVICES.

UTAM has decided to employ a "segment self-financing" approach, under which revenues collected from the sale of coordinatable isochronous devices will be used to relocate microwave systems from the isochronous band, and revenues collected from the sale of coordinatable asynchronous devices will be used to relocate microwave stations from the asynchronous band.[7]

This approach is fundamentally inconsistent with UTAM's obligation to speed band clearing for nomadic data devices. By definition, there will be no sales of nomadic devices until band clearing has been completed. By relying on the deployment of coordinatable asynchronous devices to fund the clearing of the asynchronous band, UTAM has shielded its members (who are principally interested in deploying isochronous, or voice, products) from the obligation imposed by the Commission, and has doomed any realistic prospect of clearing the asynchronous band.

UTAM attempts to justify its adoption of segment self-financing by pointing to the BIS demand study, which it asserts found that there is a relatively equal split in demand for asynchronous and isochronous products.[8] Computer manufacturers have

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[6] Elsewhere in the Plan, UTAM states that its financial plan will generate sufficient funds to clear the unlicensed spectrum in six to twelve years. By UTAM's own estimates, deployment of nomadic devices could easily be delayed until the year 2006.

[7] UTAM Plan at 48, 49.

[8] As noted above, however, the BIS study did not even consider the demand for nomadic asynchronous devices.

stated on the record in this proceeding, however, that they do not perceive substantial demand for wireless computing devices that operate solely in conjunction with a fixed base station, especially with the constraints necessitated by the prior coordination and disablement requirements and at the prices that would have to be charged to cover frequency coordination costs.

Apple urges the Commission to find that segment self-financing offers no reasonable prospect for clearing the unlicensed asynchronous band and, therefore, is inconsistent with the requirements for UTAM's band clearing plan set forth in the Second R&O and the Commission's Rules.

III. UTAM'S PROPOSED USE OF "WEDGE" CLEARING IGNORES TECHNICAL REALITIES.

UTAM proposes to begin the clearing process with in-band links operating closest to 1920 MHz. It argues that this approach will speed the deployment of nomadic devices by minimizing adjacent channel interference concerns for a portion of the asynchronous spectrum, and will help to address the problem presented by the relatively long relocation period for public safety licensees.[9]

UTAM's reasoning is fundamentally flawed. The "wedge" approach ignores the manner in which fixed microwave stations (both public safety and non-public safety) are licensed. The licensed center frequencies for microwave transmitters and receivers are not sprinkled across the 1910-1930 MHz band. Rather, with rare exceptions stations are licensed to transmit using a center frequency of either 1915 or 1925 MHz and to occupy a nominal 10 MHz bandwidth. (Most receivers have similar center frequencies, but typically have an 18 MHz receive bandwidth.) A single transmitter thus occupies the entire 10 MHz band (1910-1920 or 1920-1930 MHz), and cannot be treated as if it were composed of ten divisible 1 MHz pieces.

As a result, Apple is not aware of any method for relocating the "piece" of a microwave transmitter operating, for example, in the 1920-1921 MHz band. UTAM has failed to explain how it envisions dividing the indivisible and, therefore, the Commission should not expect that the "wedge" approach will provide any relief for nomadic data devices.

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[9] UTAM Plan at 49-50, 55.

IV. UTAM'S GOVERNANCE AND THE PLAN'S PROVISIONS RENDER IT HIGHLY UNLIKELY THAT COMPUTER MANUFACTURERS WILL PROVIDE SUBSTANTIAL UP-FRONT CONTRIBUTIONS.

As Apple has previously discussed at length, UTAM is a creation of, and is run by, a small group of companies that are interested principally in deploying coordinatable, unlicensed voice products.[10] The manner in which the organization is governed, the discretion given to its directors and management, and its plan to pay at least some non-site-specific coordination costs from general administrative funds make it unlikely that computer companies and others interested in deploying nomadic unlicensed PCS products would provide UTAM with necessary "kick start" funding or participate in UTAM's operations.

UTAM repeatedly states that its Plan was developed through a "consensus" process and that future disputes will be resolved in a similar manner. A closer reading of the Plan and UTAM's Bylaws, however, indicates that UTAM's closely-held Board will at all times retain control over the entity's basic decisions, and that the Board's decisions will be made based upon majority votes rather than through consensus.[11]

For example, UTAM operates through a number of committees, which are open to both voting and associate members and "strive" to operate on a consensus basis, with majority votes used where consensus cannot be reached.[12] UTAM's Board, however, controls the creation of the committees and has the absolute power to reject any decision made by a committee with which it disagrees.[13] As a result, non-Board members are at the Board's mercy at all times: with respect to financing decisions, deployment priorities, the selection of management and other UTAM personnel, and all other aspects of UTAM's organization and operation.

Almost nothing in the Plan places any meaningful constraints on the Board's discretion or provides any assurances that UTAM's (or the Board's) decisions will be made in an even handed and competitively-neutral manner.[14]

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10 Virtually all of UTAM's decisions are made by representatives from eight companies: AT&T, PCSI, Northern Telecom, Motorola, Sony, Ericsson, ROLM, and Omnipoint.

11 See UTAM Bylaws at Article V, Section 10.

12 Id. at 21.

13 Id. ("all [committee] decisions must be ratified by the Board").

14 Indeed, UTAM strongly implies that it does not expect to enter into uniform contracts with all manufacturers. See id. at 70 (UTAM will employ arbitration to resolve disagreements with

Moreover, UTAM's decision to fund at least some non-site-specific coordination costs through general administrative funds will force potential manufacturers of nomadic devices to subsidize manufacturers of coordinatable devices. Non-site specific costs are likely to be substantial and include, for example, developing and continually updating a comprehensive database that divides each county in the United States into a "Zone 1" or "Zone 2" status; developing and continually updating a "location verification" system and database; and operating a toll-free "800" number. Indeed, it appears that general administrative costs (including non-site-specific coordination costs) will consume all of UTAM's funds for as many as its first four years of operation.[15]

Yet manufacturers of coordinatable devices will not be required to reimburse UTAM for at least some of these costs.[16] As a result, if a potential supplier of nomadic asynchronous devices were to contribute funds to UTAM, some of those funds would almost certainly be used to support early deployment of coordinatable isochronous devices even though, due to UTAM's adoption of segment self-financing, such deployment would not in turn support band clearing for nomadic asynchronous devices.

For these reasons, UTAM has made it virtually impossible for computer manufacturers to participate effectively in UTAM or to provide "kick start" funding with any assurance that such funding will be used solely to support band clearing for nomadic devices.

V. UTAM'S ASSUMPTIONS THAT OTHER PARTIES WILL PAY A SUBSTANTIAL SHARE OF BAND CLEARING COSTS ARE HIGHLY OPTIMISTIC.

UTAM makes a series of very optimistic assumptions about the extent to which, and within what time periods, licensed PCS providers will relocate co-channel and adjacent channel stations. It predicts that the licensed PCS providers will pay fifty

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manufacturers regarding the payment of clearing fees "if the contract [with the manufacturer] so provides").

15 See id. at Appendix D, page 3 (under scenario 3, there will be no funds available for clearing in years 0, 1, 2, or 3).

16 See, e.g., id. at 32, 35 (the cost of updating the deployment database is included in administrative costs); 33 (toll free number fees are included in general administrative costs); 35-36 (no specific coordination fees will be charged for the deployment of products in Zone 1; for Zone 2, coordination fees will be set at subcontractor costs with an additional amount added to cover administrative overhead).

percent of the costs of relocating co-channel links, and at least ninety percent of the costs of relocating adjacent channel stations within an appropriate timeframe.[17]

These predictions may hold true in some major urban areas, where PCS licensees may move quickly to relocate all or virtually all incumbent stations within their frequencies. They are virtually certain not to hold true, however, in rural areas and, perhaps, in some PCS bands, where some licenses may not be awarded, licensees may not deploy their systems as quickly, or licensees may be able to employ frequency avoidance techniques to delay microwave relocations.

As a result, these assumptions are especially unlikely to be valid for unlicensed nomadic PCS, which requires rapid nationwide clearing of all co-channel and adjacent channel stations. The UTAM Plan therefore underestimates relocation costs by ignoring UTAM's obligation to clear spectrum nationwide to permit the prompt deployment of Data-PCS devices.

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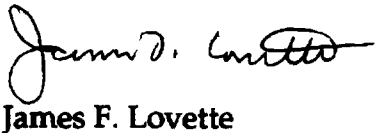
17 Id. at 28-29.

CONCLUSION

For the reasons discussed herein, the Commission should reject the UTAM Plan as inconsistent with the requirements set forth in the Second R&O and incorporated in the Commission's Rules.

Respectfully submitted,

APPLE COMPUTER, INC.



James F. Lovette
One Infinite Loop, MS: 301-4J
Cupertino, California 95014
(408) 974-1418

OF COUNSEL:

Henry Goldberg
GOLDBERG, GODLES, WIENER & WRIGHT
1229 Nineteenth Street, N.W.
Washington, D.C. 20036
(202) 429-4900

James M. Burger
Director, Government Law
APPLE COMPUTER, INC.
1667 K Street, N.W., Suite 410
Washington, D.C. 20006
(202) 466-7080

September 12, 1994

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Comments on UTAM Plan for Financing and Managing 2 GHz Microwave Relocation was sent by first-class mail, postage prepaid, this 12th day of September, 1994, to each of the following:

Chairman Reed E. Hundt*
Federal Communications Commission
1919 M Street, N.W.,
Washington, D.C. 20554

Commissioner James H. Quello*
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Commissioner Andrew C. Barrett*
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Commissioner Susan P. Ness*
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Commissioner Rachelle B. Chong*
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

R. Michael Senkowski
Robert J. Butler
Suzanne Yelen
Wiley, Rein & Fielding
1776 K Street, N.W.
Washington, D.C. 20006
Counsel for UTAM, Inc.

Julie S. Read

* By Hand